Communication Skills and the Asperger’s Child

Improve Social Skills Through Better Communication

1. Introduction
2. “Little Professors”
3. Social Communication and Language skills
4. Background; Symptoms, Causes, Diagnosis
5. Brain Functioning and Reading Development
6. Cognitive Functioning
7. Treating Asperger’s
9. Interventions
10. Resources, Bibliography

******************
This guide is intended for general interest only. Readers are advised to seek appropriate advice before taking action.

The mention of therapies in this report does not necessarily imply endorsement. Gemm Learning cannot accept responsibility for errors or omissions.
******************
1/ Introduction

They have all one thing in common: the language feels unnatural.

Hans Asperger 1944

A child with Asperger’s Syndrome may often have challenges in his or her oral and written comprehension. He or she may appear to understand well, however the understanding is weak because he misses the nuances, inferences and other critical aspects of communications. Ambiguity, weak language vocabulary, poor language structure and pragmatics may also cause confusion. For a significant proportion of Asperger’s children, cognitive weaknesses such as a poor working memory, lack of attention and auditory processing skills can prevent the mastery of language and reading.

These weaknesses may hide his true strengths and prevent him from meeting his potential. Instead of being challenged at school he may have a frustrating experience and perhaps develop a sense of alienation from academic work. Equally when his receptive language is weak he can have problems in the classroom and socially. Somehow he doesn’t get the flow of the conversations and can feel excluded. This may lead to poor self-esteem, social exclusion and a lack of motivation.

However his language skills can be improved. An individual education plan should be put together that clearly identifies his needs. There are now products and teaching methods that can effectively deal with his priorities. Comprehension skills can be developed. Cognitive skills can be improved. The existing academic curriculum will need to be supplemented to ensure that the student meets his or her potential.

There are several intervention steps that have to be taken into account

1) An initial assessment is essential that identifies his needs and this should be followed by the creation of a personalized program to address the priority areas.

2) Also ensure that the training is personal so that he can feel secure that only his tutor and he know the results and the errors.

3) Finally the program should be designed to assist him or her in fundamental language skills right through high level comprehension exercises.

Children can be taught to improve their social skills in much the same way as they acquire another skill such as playing a musical instrument.

This social and communication skills report for people for Asperger’s will focus on three key areas for development

- **Development of language skills:**
  The language and reading work should include exercises designed to build attention span to comprehension strategies, language pragmatics, verbal reasoning and vocabulary development. There must be a focus on the reduction of ambiguity, coping with figures of speech, improving listening skills, dealing with abstractions, imprecise expressions and so on.

- **Social skills:** The need to develop practice new skills in situations which are true to life is most effective. Skills training includes: learning nonverbal behaviors, such as the uses of gaze and body
language, smiling, interpretation of nonverbal behavior of others, processing of visual information simultaneously with auditory information, social awareness, and learning verbal behaviors.

- **Processing and Cognitive skill development:** There is often a need to improve the speed at which the Asperger person identifies and understands rapid successive changes in sound (listening accuracy), and the ability to recognize and remember the order in which a series of sounds is presented (auditory sequencing). This improvement in receptive language helps oral comprehension and expressive language.

When students can process more effectively, all other learning activities get accomplished more efficiently, and the dedication of teachers and investment in other learning programs yields better results. Importantly, students are more motivated to learn and have better self-esteem.
2/ “Little Professors”

In 1944, Viennese physician, Hans Asperger, observed autistic-like behavior in a group of young boys who were of normal intelligence and who displayed normal language development. The subjects displayed significant deficits in social and communication skills. Asperger’s research led to the recognition of Asperger Syndrome as a neurobiological disorder added to the Diagnostic and Statistical Manual of Mental Disorders in the mid 1990’s.

Asperger Syndrome is characterized by mild to severe characteristics that may include noticeable deficits in social skills and problems with change and transition to new situations. Most individuals with Asperger’s display obsessive patterns and display marked difficulty in reading body language and gauging personal boundaries. These individuals may have intense reactions to sensory stimulation and may therefore prefer certain types of clothing, foods, and surroundings.

Individuals affected by Asperger Syndrome are of normal intelligence and some may even be exceptionally talented or skilled. Certain professionals prefer to refer to Asperger’s as High Functioning Autism and feel that it is more of a learning disability and may share some of the characteristics of ADD and ADHD.

Asperger described his subjects as “little professors” because of their acute ability to convey information in an almost academic manner at a very young age. This talent belies the fact that children with Asperger’s are plagued by marked communication deficiencies.

Asperger’s syndrome

As an example incidence in the population it's estimated that roughly .0034% to 1% of the US population is affected by AS. (US National Institutes of Mental Health, 2008) Because diagnosis has improved, the incidence of AS appears to be increasing. Many children are diagnosed with AS after age three, but most often diagnosis occurs between eight and 11 years of age. Teenagers and adults are also diagnosed with AS.

Asperger’s Syndrome is named after Hans Asperger, a Viennese pediatrician, who first described a set of behavior patterns he noticed in male patients. Asperger noticed that the boys had normal intelligence and language development, but they had severely impaired social and communication skills, and oftentimes poor coordination. People with Asperger’s are able to function normally, but are socially immature, have poor social skills, obsessions, unusual speech, few facial expressions, inability to read body language and emotions, limited interests, and high sensitivity to sensory stimuli, such as light, sound, texture, and tastes. (Asperger, 1938) They are seen as eccentric or odd in many cases.

3/ Social Communication and Language Skills

If you have Asperger syndrome, understanding conversation is like trying to understand a foreign language. People with Asperger syndrome sometimes find it difficult to express themselves emotionally and socially. For example, they may:

- have difficulty understanding gestures, facial expressions or tone of voice
- have difficulty knowing when to start or end a conversation and choosing topics to talk about
- use complex words and phrases but may not fully understand what they mean
be very literal in what they say and can have difficulty understanding jokes, metaphor and sarcasm. For example, a person with Asperger syndrome may be confused by the phrase 'That's cool' when people use it to say something is good.

 ✓ In order to help a person with Asperger syndrome understand you, keep your sentences short - be clear and concise.

“Fluent speech but difficulties with conversation skills and a tendency to be pedantic, have an unusual prosody and to make a literal interpretation.”

Tony Attwood

Potential Impact on Language skills

- Delayed speech development
- Formal pedantic language
- Peculiar voice characteristics
- Weak comprehension
- Problems with literal and implied meanings

At least three are required for a diagnosis of Asperger’s syndrome.

Source: Gilberg and Gilberg diagnostic criteria of speech and language peculiarities 1989.

Other peculiarities include; talking too much or talking too little as well as eccentric use of vocabulary, lack of cohesion in conversation, repetitive patterns in speech and abnormalities in inflection and emphasis.

Attwood refers to difficulties in speed of language processing. So that there are difficulties in understanding someone’s speech when there are distractions and other noise.

Uta Frith (2004) reports that their written or typed language is often superior to their spoken communication.

A qualitative impairment in subtle communication skills:

4/ Background; Symptoms, Causes, Diagnosis

Symptoms of Asperger’s Syndrome
Asperger’s Syndrome is not easy to diagnose; it’s best to get a diagnosis from a doctor or mental health professional. Symptoms of Asperger’s Syndrome include:

- Average or above average intelligence;
- A lack of common sense, sometimes called mindblindness;
- Poor social interaction, sometimes inappropriate in nature;
- Focus on the self and a lack of interest in others;
- Repetitive or robotic speech;
- Difficulties in school with social skills, reading, math, or writing;
- Obsession with a single area of interest, often in science or math;
- Anxiety over changes in routine;
- Average to below average nonverbal, thinking and reasoning skills;
- Advanced vocabulary, but difficulty in using language figuratively or in social situations;
- Odd behaviors or movements, including repetitive movements; and
- Poor physical coordination.
Potential Causes of Asperger’s Syndrome

Researchers are investigating the causes of AS, which may be numerous. There seems to be a hereditary component and an association with other mental health disorders such as depression and bipolar disorder. AS is not caused by emotional deprivation or poor parenting. There is no cure for AS, but with appropriate education, support, and resources, those with Asperger’s can live full, successful lives. Early intervention, while a child’s brain is still developing is generally accepted to be best.

✅ How you can help a person with Aspergers to communicate more easily

- Keep your sentences short - be clear and concise.
- Don’t assume they understand, Check by asking questions
- Develop their language skills, vocabulary, reduce ambiguities, build comprehension
- Use Social Stories type games to develop understand more social and spontaneous encounters

Diagnosis of Asperger’s Syndrome

If a parent or teacher suspects a child may have Asperger’s Syndrome, it is important to see a doctor or mental health professional to get an evaluation. The majority of children with Asperger’s syndrome are diagnosed when the child’s unusual abilities and behavior are recognized by a teacher. Then, the parents are encouraged to seek a diagnostic assessment.

Sometimes a child’s developmental history includes a disorder associated with Asperger’s Syndrome, such as poor attention span, weak language skills, clumsy movement, moodiness, eating disorders, or problems with learning and that can trigger the start of the assessment process that eventually leads to a diagnosis of Asperger’s syndrome.

The doctor who performs an assessment should complete a thorough psychosocial evaluation, including a history of when symptoms were first noticed, development of motor skills and language, and other aspects of personality and behavior. Strong emphasis should be placed on social development, including past and present problems in social interaction, communication, and development of friendships. A psychological evaluation includes tests to determine strengths and skills that may be deficient.

Some children, although first diagnosed with autism, develop functional language in early childhood and eventually show the abilities typical of a child with Asperger’s Syndrome. In a child’s early years, autism may be the correct diagnosis, but Asperger’s is suspected when children with autism show remarkable improvement in language, play, and motivation to socialize between four and six years of age. Then their abilities become consistent with the characteristics of Asperger's Syndrome (Attwood, 1998). These children may be diagnosed as having High Functioning Autism (HFA) or Asperger's Syndrome.

A Language Disorder

A child who has Asperger's Syndrome may be recognized as having a delay in the development of speech. Formal testing of communication skills may identify both language delay and a pattern of linguistic abilities called Semantic Pragmatic
Language Disorder (SPLD). Children with SPLD have relatively good language skills in the areas of syntax, vocabulary and phonology, but poor use of language in social situations. The child interprets what people say very literally. The diagnosis of SPLD explains the child's language skills, but a comprehensive assessment of abilities and behavior indicates a diagnosis of Asperger's Syndrome.
5/ Brain Functioning and Reading Development

**Recent brain imaging studies** have discovered that children with Asperger’s have neuronal abnormalities in the brain’s prefrontal lobe. The severity of these abnormalities is related to the severity of the symptoms that the child displays.

These studies have also revealed that Asperger’s children appear to lack the ability to unconsciously assess the ownership of actions during social communications. In essence, what would normally be a two-sided, give and take interaction is one-sided for the Asperger’s child; the Asperger’s child interacts with the self as opposed to recognizing when that natural give and take should take place.

The goal of education is to assist children in acquiring knowledge and skills pertinent to personal independence and social responsibility. Limiting the expectations of children with Asperger’s only defines their disorder as debilitative, which it is not. Most children learn certain skills automatically. For the Asperger’s child, these skills may not develop following the same pattern as that of a non-Asperger’s child. Because of this, goals for educating the Asperger’s child may need to address language, social, and adaptive skills.

Using the information garnered from brain imaging studies and behavioral assessments, researchers have been able to determine that, simply put, children with Asperger’s have brains that have difficulty with multitasking. This one-track processing is what appears to keep Asperger’s children from being able to handle situations that require multiple processing functions such as conversations (the give and take), instruction (stopping his or her own thoughts in order to receive instruction), or relationships.

Events or systems that develop in stages are often difficult for the Asperger’s child to perceive because he may be only able to understand either the beginning or the end of the process, not any of the steps in between.
Cognitive Functioning

One significant feature of Asperger syndrome is the typical development of cognitive functioning and language acquisition. However, this may be accompanied by impairment to executive functioning (American Psychiatric Association, 2000).

Cognitive functioning is a broad term used to describe the brain processes associated with thinking, learning, memory and language.

Executive functioning relates to other cognitive processes such as planning, organisation, time management, cognitive flexibility, abstract thinking, concentration, rule acquisition and the ability to inhibit inappropriate actions and irrelevant sensory information.

While cognitive functioning may develop typically for people with Asperger syndrome, many experience impairments in executive functioning (Dahle & Gargiulo, 2004; Safran, 2002; Attwood, 1998).

Students with Asperger syndrome may not be able to organise their learning tasks, may interrupt inappropriately and often think in concrete and inflexible ways rather than laterally.

These difficulties affect their work output, their social relations, the development of broad-base problem-solving skills and their ability for abstract thinking—skills often required for classroom participation and the completion of educational tasks (Attwood, 1998).

There is also considerable debate concerning the intellectual abilities of people with Asperger syndrome (Abele & Grenier, 2005; Gillberg, 2002; Safran, 2002; Myles & Andreon, 2001; Attwood, 1998). Variation in assessment results (i.e. I.Q. scores) amongst individuals is thought to be inconsistent because strengths in one area and impairment in another distort the overall score (Attwood, 1998). For this reason it is recommended to look at the patterns of their responses, not the actual score of a test (ibid, 1998).

Source: Government of South Australia, extracted from Quality Educational Practices for Students with Asperger’s Syndrome. September 2006
The Four Essential Processing Skills for Language, Reading and Learning.

Neuroscience and educational research have clearly identified the four key skills that are needed for effective reading and learning. These skills are Memory, Attention, Processing and Sequencing and they are used to improve the essential cognitive processes that a student needs for reading and learning.

**Improved Memory**

Students must have good working memory. This provides them with the capacity to retain information for a short time, while actively processing or working with it. A good intervention program should improve working memory, moving students’ abilities into the higher range, and show significant improvements compared to before.

**Attention**

Focused and sustained attention provide the ability to concentrate on a task without being distracted. Students may need to show major improvements in attention and focus depending on their personal situation.

**Processing Skills**

Auditory processing skills, including the ability to discriminate the fast changes that distinguish many phonemes, provide the foundation for acquiring strong verbal language skills and for learning to read.

Students should move well into the average auditory processing range in both quiet and noisy conditions.

One detailed study at the Department of Child and Adolescent Psychiatry at Göteborg University in Göteborg, Sweden found that Asperger’s children who did not receive cognitive training may experience a decline in processing skills. And research published in the American Journal of Occupational Therapy also shows that cognitive training such as that provided in the Fast ForWord ® program increases processing speeds, enhances brain synchrony, and helps develop learning pathways in the brain. Benefits also include significant increases in attention, coordination, control of aggression, motor control, language and reading processing.

With this information it is important to use a learning system that teaches concepts, procedures, cognitive functions, and communication skills in a fashion that is easier for the Asperger’s child to process. In essence, the method should follow a concept from beginning to end, step by step, developing and learning each sequence piece by piece.
7/ Treating Asperger’s Syndrome

Because AS differs from person to person, there are no typically prescribed treatments and few treatments and therapies are proven by scientific studies. However, these are the most common forms of treatment for Asperger’s Syndrome:
- parent education and training
- specialized educational interventions or placement in a special educational setting
- social skills training
- language therapy
- sensory integration training in which “Aspies” are desensitized to sensory stimuli
- psychotherapy or behavioral/cognitive therapy
- medications. (Attwood, 1998)

Current Interventions

Education

In the United Kingdom, the Local Educational Authority (LEA) must meet a child’s Special Educational Needs. They are covered by a Code of Practice and parents have rights as to what to expect from schools and the LEA. Copies of the code of practice are available from the DfEE. A child may need a Statement of Educational Needs. This will determine the child’s needs, level of support, and list what the school must do to accommodate the child with AS. Parents should request an assessment and Statement under the Education Act of 1996.

The LEA will have specialists including: the child’s doctor, Health Visitor, speech and language therapists, nursery staff, educational psychologists, counsellors, and teachers complete a thorough assessment of a child. Parents can appeal to a Special Needs’ Tribunal, if the help offered does not seem appropriate or effective.

In the United States, every Asperger’s child should have an evaluation by a team of experts, including parents or guardians, doctors, a psychologist, and teachers. Once the child’s needs are assessed, he/she should be placed into an appropriate school program. An individualized education plan (IEP) will be written and monitored. Such evaluations are federally mandated upon request by a parent.

Support in the regular classroom should be provided, such as: an educational assistant, academic help from a specially trained teacher, and training in social and occupational skills.

Often a child with Asperger’s is more successful when placed in a special education classroom (or even a special school) with trained teachers and aides, who provide a consistent, individualized educational program in a smaller group of students. Counselling and occupational therapy can be easily scheduled, monitored, and supported in special education. The child may have the same
teachers and aides for several years, increasing their understanding of the child’s needs and maximizing progress.

Medical: Health Professionals

Asperger’s Syndrome is treated in two ways. The first is cognitive psychology, and the second is prescription medication. A psychiatrist, psychologist, or behavior therapist, who specializes in Asperger’s Syndrome, will help Aspies and their parents discover the reasons behind behavioral changes, modify the situation or the environment to reduce difficult behavior, and create interventions to help handle crowded situations, anger management, issues with diet and eating, anxiety, sleep disorders, emotions, etc.

Individuals with AS who have obsessive-compulsive symptoms (OCD) may benefit from standard treatments for OCD such as serotonin reuptake inhibitors, as well as cognitive and behavioral therapies. Serotonergic drugs can reduce obsessions, although finding the right drug takes time and, once found, its effect may be partial and temporary. If an obsession continues, a psychiatrist who specializes in treating children with Asperger’s Syndrome should be consulted. A psychiatrist has a medical degree, is a doctor of medicine, and has had additional training in a treatment specialty.

The Low Salicylate or Feingold Diet

Salicylate intolerance has been linked to attention disorders and hyperactivity, as well as mood and anxiety disorders. Researchers have found that people with Asperger’s have low tolerance for salicylates, natural plant toxins found in fruits, berries, some vegetables, honey, yeast extracts, and almonds. The Feingold diet is a food elimination program developed by Ben F. Feingold, MD to treat hyperactivity. As well as the foods listed above, the Feingold diet eliminates artificial colours, flavours, preservatives, synthetic sweeteners, and nitrates. Soft drinks, chocolate, and sugar are not eliminated. The Feingold diet limits Aspies to a narrow selection of foods, which are expensive, and must be prepared “from scratch.” The effectiveness of this diet has been debated for 30 years. Some studies have shown that 70-85% of hyperactive children respond positively to the Feingold diet. (Autism Spectrum Disorders, 2008) In a large study, done in 1986, one million schoolchildren in New York City were studied for seven years. Their average standardized test scores rose 15.7% during the years they ate no additives. (Autism Spectrum Disorders, 2008)

Behavior Therapies: Social Skills Training

Social skills, such as saying “Hi” or “See you later” and responding to others, are often taught by communication specialists in social training groups. Imitating and practicing new skills in situations which are true to life is most effective. Skills training includes: learning nonverbal behaviors, such as the uses of gaze and body language, smiling, interpretation of nonverbal behavior of others, processing of visual information simultaneously with auditory information, social awareness, and learning verbal behaviors. (Bellini, 2008)

Social Stories

Social stories can be used to teach appropriate behavior in a variety of settings. Social stories may be used by parents, therapists, or in peer group settings. Social stories are used to address the following symptoms:

- Feelings of isolation;
• Lack of imagination;
• Shyness, anxiety, timidity, and unhappiness;
• Depression;
• Obsessions, including irrational fears and anxieties; and
• Difficulty in social relationships.
(Gray, 2000)

Social Stories, written by Carol Gray, contains accurate and useful information for Aspies encountering social situations that they find difficult. Social stories describe a situation in explicit detail and focus on teachable skills needed by the Aspie. A typical social story will describe a social situation, teach how to react in that situation, and explain why the reaction is appropriate. Pictures are often included to help Aspies understand and visualize the social situation. (Gray, 2000)

Benefits of Social Stories
Social stories address "theory of mind" impairment (i.e.; a lack of understanding of the feelings and behavior of others) by explaining the thoughts, emotions, and behaviors of others in social situations and how to respond to them. Social stories provide this information through pictures and text instead of speech or observation, which are areas of weakness for people with Asperger’s Syndrome. Social Stories give Aspies a chance to practice social skills until they are learned. (Gray, 2000)

Which Social Story?
Social situations from which a child withdraws, attempts to escape, or in which he tantrums, cries, or becomes frightened are appropriate for a Social Story.

Using Social Stories
Prior to using a social story, it should be shared with everyone who is involved in the child’s life and education. If possible, the child should present the story to teachers or family members and then they should discuss the story with the child. This helps the child understand that everyone has the same expectations of him in that particular social situation. Each of these individuals can refer the child back to the story as the need arises. A consistent schedule for reviewing each story should be maintained, typically once a day. The effectiveness of the story should be monitored consistently. As the child becomes successful in the situation, the story can be reviewed less frequently. As each story is mastered, it should be kept for review as needed. (Gray 2000)

www.thegraycenter.org/.

Behavior Modification
The best way to improve behavior is through the use of behavior modification. It consists of finding out the Aspie’s needs and then teaching a rational, predictable behavior to replace negative behaviors. This takes time and patience. Behavior modification should be started early; it is very effective. Children under the age of five may need to use a picture system (like PECS) to indicate their needs since expressing them verbally may be too difficult. (Unknown, 2008)

Establishment of Routine
Establishing a daily routine is very beneficial as it produces stability in the home, and, for Asperger’s children, it provides comfort, security, and helps reduce aggressive or demanding behavior. (Norton 2008)

Overcome Mindblindness
A deficiency of those with Asperger's syndrome is mindblindness (sometimes called brain blindness). Mindblindness refers to the inability of Asperger’s sufferers to understand and empathize with the needs, beliefs, and intentions that underlie other people’s behavior, and their
own. Without this ability, Aspies cannot make sense of the world and they go through life making mistakes (mindblindness). Aspies cannot connect their own needs, beliefs, and intentions to experiences and positive or negative consequences, at least not without help. (Baron-Cohen, S., Cosmides, L., & Tooby, J. 1997)

Yet, Aspies can learn to overcome mindblindness with a lifetime of constant “counselling” by good teachers, parents, counsellors, and therapists. Some adult Aspies can read books and learn how to accomplish this, but AS children need help. With help, Aspies can grow up to lead nearly normal lives.
Sensory Integration Therapy (SI)

Children with sensory integrations problems can be "hyposensitive," i.e.; under sensitive to some stimuli, at the same time that they are “hypersensitive,” i.e.; over sensitive to other stimuli. There is so much stimulation that the child must seek relief or so little that he must stimulate himself. Sensory integration therapy, used to treat the disorder, addresses issues of body/spatial awareness and extreme sensitivity or lack of it to texture, touch, light, sound, smells, and tastes. The therapy involves deep pressure, brushing, massage, vibration, and exposure to sounds, tastes, and smells to train the brain to accept and integrate sensory input. There has been limited research on the effectiveness of SI, but in studies done so far, all have shown some degree of effectiveness. (Healing Thresholds 2008)

The Reach Program

The REACH program applies behavior analysis and treatment to children with Asperger’s Syndrome. Training is also available to teachers, parents, and therapists. Each child follows an individualized care plan. The goal is to intervene early and teach children the skills they need to improve their behavior. Communication and social and academic skills, as well as sensory integration are addressed. Some children make great progress with REACH.

Some doctors recommend treatment for infants whom they consider to be “at risk” of Asperger’s Syndrome. They feel that early intervention might limit or even eliminate the development of the syndrome, saving them from a lifelong disability.

Bal-A-Vis-X Exercises

Bal-A-Vis-X exercises have been used with great success for AS children. They are rhythmic, vision, balance, and auditory exercises for the brain. Occupational therapists, physical therapists, and teachers use Bal-A-Vis-X with students; some autistic children have learned focus techniques that enable them to focus well in many situations.

Bal-A-Vis-X is non-invasive and non-medication based. It trains the brain to organize and learn, beginning with an assessment to determine needs and a plan to address them. Sometimes neurofeedback is used. Neurofeedback helps the patient’s brain produce beta waves, which cause the brain to remain focused. A computer is used to reward the patient when beta waves are produced. Bal-A-Vis-X has a great deal of anecdotal success data. (Cosgrove 2008)
8/ Profiles

**Hans Asperger**

“Not everything that steps out of line, and thus 'abnormal', must necessarily be 'inferior.'” (Asperger, 1938, translated by Frith, 1991)

Dr. Hans Asperger, a Viennese pediatrician, made that statement referring to certain children he studied in his clinic in Austria, who he felt had a personality disorder, but not a mental disorder. Dr. Asperger described a profile of personality and behavior differences and abilities, similar in these children, which was ultimately termed Asperger’s Syndrome, but, at that time, he called it “autistic psychopathy.”

In the 1940s, studying childhood became a recognized specialty of medicine and theoretical models and assessment instruments were developed. However, Dr. Asperger could not find an explanation for the characteristics he observed. Asperger was fascinated by children with autistic personality disorders and he observed that in this group of children, social maturity and reasoning were delayed. The children had difficulty making friends and were often teased by others. However, the children also showed various talents and some had the ability to form strong interpersonal relationships. Asperger also observed problems in verbalizing and controlling emotions and empathizing with others. The children attempted to intellectualize their feelings. (Asperger, 1938)

The children showed impairments in verbal and non-verbal communication, especially conversational language. They used language in measured, repetitive ways that affected the tone, pitch and rhythm of their speech. Grammar and vocabulary were fairly advanced for their ages. They had a tendency to “lecture,” rather than converse with others. (Asperger, 1938)

The children had preoccupations with a specific interest that dominated their thoughts and activities. Some had difficulty maintaining attention and had learning problems. They needed assistance with self-help and organizational skills from their mothers. Asperger described conspicuous clumsiness in gait and coordination. He also described extreme sensitivity to sound, light, aromas, textures, tastes, and touch and an adherence to rituals and routines. (Asperger, 1938)

Asperger noticed that in some children these characteristics were obvious by age three, but in others not noticed until later in life. Some of the parents, especially fathers, appeared to exhibit some of the same personality characteristics. He stated that the disorder was probably due to genetic or neurological factors, rather psychological or environmental ones. He considered autistic personality disorder as part of a natural continuum of abilities from below to normal range. (Asperger, 1938)

He concluded that "The autistic personality is highly distinctive despite wide individual differences...autistic individuals are distinguished from each other not only by the degree of contact disturbance and the degree of intellectual ability, but also by their personality and their special interests, which are often outstandingly varied and original." (Asperger, 1938).

It wasn't until the mid-1990s that Asperger's Syndrome was widely recognized by medical professionals. Today, Asperger’s Syndrome is listed in the *Diagnostic and Statistical Manual of Mental Disorders* (DSM-IV-TR) as one of...
five pervasive developmental disorders (PDD), referred to today as autism spectrum disorders (ASD). All five are characterized by degrees of impairment in communication’s skills, social interactions, and repetitive, stereotyped patterns of behavior. (DSM-IV-TR, 2000)

Dr Tony Attwood

Dr. Tony Attwood, a recognized, international expert on Asperger’s Syndrome was born on February 9, 1952 in Birmingham, England. He is an English psychologist who now lives in Queensland, Australia and has a clinical practice at his diagnostic and treatment clinic for children and adults with Asperger’s Syndrome.

The Complete Guide to Asperger's Syndrome is a comprehensive manual filled with useful information, current research, and helpful advice for those who have Asperger’s Syndrome. This book is the “bible” of Asperger’s Syndrome and a valuable resource for anyone who wants to understand or is interested in this complex and misunderstood condition, including those who have Asperger’s, their families, teachers, medical professionals, and employers. (Willey, 1999)

The Complete Guide to Asperger’s Syndrome recounts case studies from Dr. Attwood's clinical experience. The book is authoritative, but easily understood. The chapters cover:

- diagnosis and its effect on individuals
- causes of the syndrome
- theory of mind
- the perception of emotions in the self and others
- social interactions and relationships
- teasing, bullying, and mental health issues
- the effect of Asperger’s Syndrome (AS) on language and cognitive abilities, sensory sensitivity, movement and co-ordination
- career decisions.

“An encyclopedia on Asperger's syndrome written in easy-to-read, non-technical language. It will be especially useful for helping individuals with Asperger's, parents and professionals understand the social difficulties. There is a good mix of research information, first person reports and clinical information. The section on sensory over-sensitivity is excellent. Sensory issues prevent many people on the autism/Asperger's spectrum from participating in many social activities because stimuli that do not bother most people are intolerable {to them}.” (Grandin, 1995)

Dr. Attwood also discusses the need for managers to use flexibility of thought and accept the need to do things differently when working with Aspies. (Attwood, 1998)

This chapter also covers conflict, compromise and negotiation, and how to offer apologies. Active listening and confidentiality are emphasized, as are techniques that promote social inclusion, including how to interact appropriately in conversational situations. Dr. Attwood explains the need to adjust language according to social context including: addressing the knowledge, interests, and intentions of others, following social conventions on what to say and how to say it, and listening carefully. Language is discussed extensively: difficulties relating to
understanding, remembering, and following complex oral directions, pausing between responses, interrupting, switching subjects, and following a conversation through to the end. (Attwood, 1998)

The chapter on Cognition (Learning) starts with the statistic that one in five children is a “visualizer” who learns through sight and observation. (Attwood, 1998) Dr. Attwood makes the point that many Aspies fail to acquire certain abilities because they do not understand the basic concepts underlying them. Visual learning techniques are particularly effective in helping Aspies learn such concepts. The business environment is discussed in this chapter, too, including limitations in attention span, organizing resources, knowledge, planning, and prioritizing. (Attwood, 1998)

A final chapter looks at long-term relationships. It focuses largely on social and family factors, but does offer advice for business contexts. Dr. Attwood covers how the characteristics of Asperger’s syndrome impact partners leading them to feel emotionally exhausted and neglected. Among the criteria suggested for building successful relationships: both parties understand AS; motivation to change and learn; willingness to implement suggested changes.

Basically this chapter explains building emotional support systems and empathy with others, including how a person with Asperger’s needs reassurance, but does not give it to others; how he can easily criticize but not compliment, and why there is a need to show interest in the emotional needs of others. (Attwood, 1998)

Carol Gray

Carol Gray is the President of the Gray Center and a recipient of the 1995 Barbara Lipinski Award for her contributions to the education of children with autistic spectrum disorders. She started and developed the use of Social Stories with students who have autistic spectrum disorders. In addition, she has written several articles, book chapters, and educational resources on autistic spectrum disorders. Ms. Gray co-authored the groundbreaking article entitled “Social Stories: Improving Responses of Students with Autism with Accurate Social Information,” published in Focus on Autistic Behavior in April, 1993. After publishing this article, Ms. Gray edited the first book of Social Stories entitled The Original Social Story Book (1993). This was followed by New Social Stories (1994), which has been revised and titled, The New Illustrated Social Story Book (revised 2000). See the section on Social Stories www.thegraycenter.org/.
Dr. Martha Burns

Dr. Martha Burns is a practicing speech and language pathologist who has been in practice for more than 35 years. Currently, she is the Director of the Clinical Specialty Market for the Scientific Learning Corporation and also an adjunct Associate Professor at Northwestern University. In addition, Ms. Burns is part of the professional staff of Evanston-Northwestern University Health Care.

Dr. Burns is a published author. She has written books on language difficulties are associated with neurological disorders and authored a psychological test “The Burns Brief Inventory of Communication and Cognition.” Ms. Burns wrote the paper, “Access To Reading: The Language to Literacy Link,” which was presented at the Learning Disabilities Association conference in 1999. This paper included research on the Fast Forward Language and the Fast Forward Language to Reading programs.

Dr. Burns often speaks on the topics of neuro-cognitive linguistics, development of language in the brain, and the language to literacy continuum. In addition, Dr. Burns has written on Asperger’s Syndrome, “Asperger’s Syndrome: Improve Social Skills through Better Communications.”

Dr. Burns believes that children who have been diagnosed with Asperger’s Syndrome are challenged in oral or written comprehension skills because they do not grasp situational cues, nuances, or implications in communications. Dr. Burns also believes that children with Asperger’s Syndrome have poor memory skills and lack of attention that keeps them from learning language and reading skills. Often these weaknesses hide natural strengths and abilities which prevent them from living up to their learning and behavioral potentials. (Burns, 1999)

Dr. Burns sees reading as the gateway to learning, the primary skill that helps children reach their full potentials. Dr. Burns recommends that language and reading instruction should include attention-building exercises, comprehension strategies, verbal-reasoning skills, and development of vocabulary. (Burns, 1999)
CASE STUDY
Boy 12 with Asperger’s

My first reactions to Fast ForWord were mixed between excitement and regret, excitement about the potential this product had, and regret that it had not been available to us much sooner. Having spent about six years attending speech and language therapy with my son, who needed help with expressive language, language comprehension and auditory processing, I could immediately see how the language aspect of Fast ForWord would have been a huge help to him when he was younger.

Michael was eleven years old when he started Fast ForWord, beginning with Language and Language to Reading. He found these exercises fairly easy to complete and so gained all the benefits while at the same time was getting used to the workings and structure of the program, and growing in confidence. I thought the sound exercises using all the different frequencies were excellent as this was another area Michael had issues in. Michael progressed well through Reading 1-5. We didn't look any further than completing one level at a time and seeing how well Michael was growing in competence with the various levels, it made sense to keep going, finally managing to complete Reading 5. Skills such as spelling, phonics, vocabulary, fluency and comprehension were all covered at various levels. These were the areas being targeted by the language therapist and resource teacher, and now at last we had the opportunity to work intensively on these specific skills and make a difference for Michael.

Like with all new undertakings, I was watching for improvements every day but found this was a mistake. The improvements were gradual and not always apparent. One of the first things I noticed was that Michael was doing his homework in about half the time it used to take him.

He was learning his spellings much quicker and was able to retain them. About two years ago, before Michael undertook Fast For Word, his teacher had mentioned that even though he didn't have a big problem with his reading, and was achieving average scores in reading tests, the fact that he was achieving so highly in other subjects made her think that his reading ability should be better. I was worried about the impact this might have on his learning for the future and what it would mean for secondary school when he would have so much more to cope with. This was probably the main reason why I decided to pursue Fast ForWord. I have had meetings with the same teacher since then, and she assures me there is no cause for concern with Michael’s reading ability, although I personally feel he will always have some level of difficulty with comprehension, but certainly some of the gap has been bridged. He scored slightly above average in his reading test after completing Fast ForWord last year, and I am hopeful this might have improved again this year.

Overall I found Fast ForWord very user friendly. The fact that each exercise is structured like a computer game makes it very attractive for children, and really from a child's point of view, it's the best of both worlds,
learning while playing games on the computer at the same time! Keeping the points charts and being able to monitor progress through the graphs and charts every day was essential for confidence and motivation. I think the fifty minute time scale was fine because each module had more than five exercises which gave less than ten minutes for each one and we didn't feel the time passing. The fact that you can complete the exercises in any order is also good because I found that Michael would prefer to start a session with one of the more difficult exercises when his concentration was at its best.

Fast ForWord certainly involves a huge commitment from both parent and participant, time, dedication and patience being the biggest commitments. It wasn't always easy to keep Michael motivated especially when the exercises became more difficult at the higher levels. He did enjoy it though and we had some laughs along the way too. Thankfully Michael doesn't have any attention deficit problems so keeping him focused for the fifty minutes wasn't too difficult. It's advisable to keep distractions to a minimum though. I chose to be with Michael every day during the sessions and found he needed praise and encouragement, especially when the going got tough. Fast ForWord wasn't an easy undertaking but I'm glad we did it and have no doubt that Michael benefited greatly from it. If I had my time back? Yes, I would do it all again, I only wish I'd known about it sooner.

Signed Mother of Boy Aged 12.
9/ Interventions: Computer Programs for Children with Special Needs

Children who have been diagnosed with dyslexia, Asperger’s Syndrome, or autism spectrum disorders have difficulties with reading and reading comprehension; they can’t focus and they are unable to comprehend simple tasks.

There are two, excellent computer-based programs which address the needs of these children: the Fast ForWord program and the Reading Assistant program. Fast ForWord is designed for ages 6 to 18 as well as adults in educational environments and clinicians who are treating clients reading below grade level. The Reading Assistant is designed to increase oral fluency, reading fluency, and articulation accuracy.

Both programs offer excellent, valid, real-world results in reading improvement. The programs support existing teaching curricula and align with state standards meant to improve students progress scores. The courses are interventions designed to develop students’ language skills and cognitive abilities. Fast ForWord contains computer training programs that adapt to and interact with each user. When students use Fast ForWord following a prescribed daily protocol, they frequently obtain a one to two-year gain in cognitive and reading skills in 8 to 12 weeks. (Poglitsch and Melzer, 1999)

These programs are based on 30 years of research. They use systematic, structured programs designed to identify strengths and weaknesses and target areas of priority. The programs adapt to each individual, constantly monitoring progress and motivating the students to make rapid and lasting gains. Students enjoy the graphics and the fact that they experience success immediately. Essential skills for a student to have before using the programs are: general computer literacy, the ability to wear headphones, and be able to stay on-task for 20 minutes at a time. Children with Asperger’s Syndrome are often highly successful with Fast ForWord programs. They may require additional support, mediation exercises, and a high level of praise and supervision, but the end results are excellent.

Teachers can take advantage of the highly diagnostic approach by accessing reports that give precise evaluations of the student's priority areas and the
interventions required to ensure effective progress

The Fast ForWord® Program

Because many students enrolled in special education programs have moderate to severe learning disabilities, the Fast ForWord program is an educational intervention that can significantly improve academic progress.

The Fast ForWord program impacts special education programs in these ways:

- It increases the brain’s processing efficiency while helping special education students cope with problems like SLD, dyslexia, auditory processing disorders, autism, and Asperger’s Syndrome.

- The program provides the essential foundations of reading and addresses basic learning issues which reduces special education referrals.

- The program contains the Scientific Learning Progress Tracker, which provides daily student accountability information.

Fast ForWord to Reading builds and/or strengthens cognitive skills such as: sustained attention, auditory and spatial memory, auditory and linguistic processing, and the ability to perceive, remember, and reproduce a sequence in response to auditory or linguistic input.

Fast ForWord exercises focus on listening comprehension accuracy, auditory analysis, phonology, morphology (word structure), syntax (sentence structure), and semantics, as well as phonemic awareness (auditory discrimination, letter and word recognition), vocabulary (decoding, synonyms, antonyms, homophones), and comprehension/fluency (sentences, paragraphs, finding facts, drawing inferences, cause and effect reasoning, and logical reasoning).

"Students show measurable improvements in Reading Results and Brain Activation after using Scientific Learning Research-based software." (Temple, 2003)
Four Fast ForWord Exercises to develop Cognitive Skills for people with Asperger’s

Goat Quotes helps develop sentence and paragraph comprehension as the participant learns to paraphrase short paragraphs. Working memory, logical reasoning, decoding, syntax (grammar), and vocabulary are also strengthened in this exercise.

Sky Gym helps improve listening accuracy by presenting sound sweeps at different frequencies and durations, and with different lengths of time between sounds. Sound sweeps are tonal sounds whose frequency changes over time. The frequencies and durations of the sound sweeps correspond to some of the rapid transitions in the sounds of the English language.

Canine Crew uses word pairing to help develop decoding skills, vocabulary, automatic word recognition, and understanding of semantics (meanings), phonology (sound structure), and conceptual relationships. It addresses synonyms, antonyms, and homophones (same sounding words with different meanings, e.g., sea/see).

Hog Hat Zone helps develop paragraph comprehension as well as an understanding of pronouns, auxiliary verbs, prefixes, and suffixes. Hog Hat Zone also helps the participant make the links between words and sentences, and helps build a foundation for further vocabulary growth.
Clinicians and therapists can have a dramatic impact on children with autism if they work systematically and build upon essential foundational skills. Scientists continue to explore which foundational systems need to be stimulated, and in what ways, to maximize our impact on each child. Among the sensory systems that need careful stimulation in children with autism and Asperger’s Syndrome are auditory processing skills. Most professionals and parents believe that auditory processing disorders are a core component of the attention, memory and language difficulties of these children.

For almost 30 years, Dr. Paula Tallal has been studying the relationship between auditory processing, attention, memory and language learning. Based partly on her work, scientists have found that one important aspect of learning speech and language is timing. Some children attend to and perceive slowly changing sounds – such as animal sounds and music – more easily than quickly changing sounds, such as speech. For children with auditory processing difficulties, speech, where the sound wave is very complex and changes rapidly, is much harder to focus on and perceive.

To get a feeling of how fast speech is, think of counting time in seconds, as “one one-thousand, two one-thousand.” This uses four syllables for a second of time. So, single syllables of speech are usually 1/4 second long. Within that syllable, there are often three or more speech sounds a child or adult has to perceive. Some complex words, like “specks” or “stretched,” have five speech sounds. Dr. Tallal and her colleagues have found that many children who struggle to learn language have a listening “window” that is slower than 1/4 second long. Many children for whom speech is unclear because of slower listening “windows” tend to ignore speech or tune out when they are spoken to.

Dr. Tallal thought that if speech could be slowed down to a rate that matched a child’s listening “window”, it should be easier for them to perceive and learn. She collaborated with Dr. Michael Merzenich, best known for his research on brain plasticity (the notion that the human brain can remodel itself when information is presented in the right way), to develop a system for presenting speech sounds and language learning activities.

Although we always knew our brains could learn new complicated tasks, especially if they build on skills already acquired at a young age, Dr. Merzenich and other neuroplasticity researchers demonstrated that the adult brain can change even in fundamental ways like manual dexterity and perception of sound. The great news for children with autism or Asperger’s Syndrome is that despite
existing processing strengths or limitations, they too can remodel their brains to learn and use language faster and better.

Dr. Merzenich and Dr. Tallal developed a computer-based learning tool that drives the brain to handle faster and faster auditory information while at the same time teaching speech sound distinctions and language skills. The technology was patented and the product was released commercially as Fast ForWord in 1997 (it has since been renamed “Fast ForWord Language”).

The Fast ForWord Language product is comprised of seven training exercises, each designed to stimulate a different fundamental skill needed for effective communication. One exercise simply enables children to perceive and sequence two different tones that are presented at increasingly faster rates. Three other exercises (“sound exercises”) train children to distinguish sounds of English. The final three exercises teach new word meanings, grammatical meanings, and improve the ability to follow long complicated directions.

The child works on five out of seven of these carefully designed processing and language activities for twenty minutes each, five days a week, for six to ten weeks or longer. For children with autism and Asperger’s Syndrome, many therapists who have used Fast ForWord Language agree that the intensive training is an important key to the success of the training process. The success of Fast ForWord Language in remodeling the brain was recently demonstrated with the brain imaging technique of Functional Magnetic Resonance Imaging (fMRI). A team of researchers at Stanford University headed by Dr. Elise Temple has shown that adults and children with dyslexia change the brain regions they use for processing of auditory information after they use the Fast ForWord Language products. Fast ForWord Language has been successfully used with hundreds of children with autism and Asperger’s Syndrome nationwide. Early data compiled by Scientific Learning Corporation on children with autism spectrum showed one- to three-year gains in receptive and expressive language skills, auditory perceptual skills, and auditory memory after six weeks of training on Fast ForWord.

Gigi Poglitsch and Marci Melzer reported retrospective data on 100 children with autism or Asperger’s Syndrome at the Annual convention of the American Speech and Hearing Association in November 1999. They had collected information from language therapists around the nation who had used Fast ForWord Fast ForWord Language with children with autism. Most therapists reported gains in listening, memory, attention and language of two years or more after 10 to 12 weeks of training. Since 1999, therapists around the country and abroad have used Fast ForWord Language with many children with autism and Asperger’s Syndrome.
References


Bibliography


Mike Merzenich
[www.brainconnection.com](http://www.brainconnection.com)


**Recent Research on Asperger’s Syndrome**

O.A.S.I.S. Online Asperger Syndrome Information and Support, *Asperger Syndrome vs. NLD*, Papers which compare AS to NLD (non-verbal learning disorders).

Asperger’s Syndrome in Women: A Different Set of Challenges? By Catherine Faherty. This article was originally published in the July 2002 Issue of Future Horizons, Autism Digest.
Is Asperger’s Syndrome/High-Functioning Autism Necessarily a Disability? By Simon Baron-Cohen.

"Asperger Syndrome" by Stephen Bauer, M.D., M.P.H., this paper includes clinical features of AS pre-school to adulthood, and gives tips on school considerations.

"Five Survival Strategies To Help Children With Asperger's Syndrome Overcome Inertia" by George T. Lynn, M.A., C.M.H.C.

"Asperger Syndrome" by Ami Klin, PhD and Fred R. Volkmar, M.D. (Yale Child Study Center) in conjunction with the Learning Disability Association.

"Blinded by Their Strengths: The Topsy-Turvy World of Asperger's Syndrome" by Diane Twachtman-Cullen, PhD., CCC-SLP

A Survival Guide for People with Asperger Syndrome.

Pervasive Developmental Disorders by Luke Y. Tsai, M.D. describes all five pervasive developmental disorders (of which AS is one).


"Nonverbal Learning Disorders" by Sue Thompson, M.A., C.E.T.

Peaceful Coexistence: Autism, Asperger's, Hyperlexia, written by Lynn Richman and published in the American Hyperlexia Association Newsletter.

"Autism, Asperger's Syndrome, and Semantic-pragmatic disorder: Where are the boundaries?" This paper by D.V.M. Bishop compares the disorders.


www.parentingaspergers.com

Very useful and practical service provided by Dave Angel

Gemm Learning

Contact us at: www.gemmlearning.com

or by email at: info@gemmlearning.com

Phone: 877-273-5758

1380 East Putnam Avenue, Old Greenwich, CT 06870